Table 1: June 5, 2002 - System Issues and Status

Activity	Lead	Status
Processing Strategy	Geier	**As of 5/31/02** **Active processing requests in approximate order of priority:** • - PMOA for 1/98, 2/98, 3/00 (PR 27-02) • - TRMM Beta4 SRBAVG for 2/98 (PR 26-02) • - TRMM Edition2B SSF complete for Apr'98, holding for several days before processing remaining 8 months (PR 30-02) • - TRMM Edition2B CRS holding until SSF restarts (PR 29-02) • - TRMM Beta3 FSW for Apr'98 and Feb'98 holding until SSF restarts (PR 28-02) **Processing requests expected to be active within 3 weeks are:** • - Terra Edition2 BDS and ERBElike data products • - Terra Beta4 and Beta4-overARM SSF data products • - TRMM Edition2B SFC data products **Issued processing requests which have been placed on hold:** • - Standing request for Baseline1 BDS, ERBElike. Continue processing Edition1 until all BDS & ERBElike data has been reprocessed as Edition2 and Science is happy with it. Only then will Edition1 be replaced by Baseline1. **Simmering Issues:** • - ECMWF MOA Sample days arrived. Remaining issue is when will rest of it start arriving.
CM	Ayers	• See Table 2 for SCCR activity since the last DMT meeting. SCCRs for Subsystems 1-4 that need to be reviewed follow Table 2. (Ayers) • Tested the following deliveries and released them to the ASDC: Inversion (SCCRs 361&364), Clouds (SCCR 351), and CERESlib (SCCR 363). (Ayers) • Distributed and posted an updated Delivery Schedule. (Ayers)

Table 2: SCCR Activity May 20 at 3:30pm - June 3 at 3:00pm

SCCR	S	U	A	C	D	SS	Page No.	Comments
346				X		4.5&4.6		
351			X			4.1-4.4	3	
356		X			X	4.5&4.6	7	
359	X	X	X		X	4.5&4.6	8	
360	X		X			6&9		
361	X		X	X		4.5&4.6	9	
362	X		X	X		4.5&4.6	10	CERESlib modifications
363	X		X	X		CERESlib		
364	X		X			4.5&4.6	11	
365	X		X			6&9		

S=Submitted; **U**=Updated; **A**=Approved; **C**=Closed; **D**=Disapproved; **SS**=Subsystem

CERES Software Configuration Change Request Submittal

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Subsystem: Clouds SCCR Date: 04/29/2002 SCCR Number: 351

Description of Change (Science):
PGE CER4.1-4.1P2:
1. Cloud retrieval model for 1.6um was changed to higher angle resolutions and the number of optical depth bins stayed the same. The angle bins were changed from 10 to 21 for solar zenith angle and view zenith angle, 11 to 24 for azimuth angle.
2. Cloud retrieval models for 3.7um were changed to higher angle resolutions and the number of optical depth bins stayed the same. The angle bins were changed from 10 to 21 for solar zenith angle and view zenith angle, 11 to 24 for azimuth angle.
3. CERES Mask algorithm was updated. The updates include:
   (a) Clear sky night time.
   (b) Polar daytime mask.
   (c) Polar nighttime mask.
   (d) CERES non_polar night time.
4. The twilight defination was changed for solar zenith angle range from 82.0-87.5 degrees to 82.0-88.5 degrees.
5. It was discovered that a default number (65534) in 1km original MODIS HDF file (MOD021KM.A) became a negtive number (-2) in subsetted MODIS file (MOD02SS1.S), while cloud retrieval code was still screening 65534. The MODIS reader was modified to filter out all non-valid values or to flag all non-valid values to clouds default.
6. Dr. Ron Welch and his group have delivered an improved version of MODIS classifier to CERES Clouds Subsystem. The improvement was mainly over thin clouds detection. This classifier was implemented in the CERES Clouds production code.
7. Dr. Bryan Baum has delivered a new IR cloud phase algorithm. The algorithm was implemented in the CERES Clouds production code.
8. Dr. Bryan Baum has delivered an updated overlapping algorithm. The algorithm was implemented in the CERES Clouds production code.
9. The single channel aerosol optical depth algorithm from Dr Ignatov, NESDIS, was implemented including a new data files.
10. Estimated values were assigned for Aqua parameters.

PGE CER4.1-4.2P1 and CER4.1-4.2P2
11. Clouds code and scripts for CRH updating were modified. Daily CRH update procedure used to be in the PGE: CER4.1-2P1, and now has been moved to the new PGE: CER4.1-4.2P2. The new PGE (CER4.1-4.2P2) was created to allow CRH updating daily or bidaily.

PGE CER4.1-4.0P1
12. Surfmap routines in $CERESLIB were modified to include more snow and ice information around the coastlines. Clouds snow and ice PGE (CER4.1-4.0P1) needs to be modified accordingly.

Reason for Change (Science):
PGE CER4.1-4.1P2
1. The Cloud working group lead (Dr. Pat Minnis) requested the implementation of 1.6um cloud retrieval model.
2. The Cloud working group lead (Dr. Pat Minnis) requested the implementation of 3.7um cloud retrieval models.
3. This version significantly improves cloud detection over the last version (in SCCR 320).
4. The studies from CERES mask twilight tests concluded that the change was needed.
5. The change was necessary to filter out MODIS default data or bad data.
6. The updated MODIS classifier was provided by Dr. Ron Welch.
7. The new IR cloud phase algorithm was provided by Dr. Bryan Baum.
8. The updated overlapping algorithm for 1.6um was provided by Dr. Bryan Baum.
9. The new aerosol optical depth algorithm will provide consistency between TRMM Edition2B and Tera Edition1.
10. This will allow Aqua processing.

PGE CER4.1-4.2P1 and CER4.1-4.2P2
11. This will allow 6x Clouds solo system processing in the ASDC, requested by Dr. Bruce Wielicki.

PGE CER4.1-4.0P1
12. This will produce the better snow and ice maps, which will have the maximum coverage over the coastlines.

Description of Change (non-Science):
PGE CER4.1-4.1P2
1. The PCF generation script was modified to include subdirectories in the format of YYYYJJJ for MODIS files. Where YYYY is year and JJJ is Julian day.
2. The PCF generation script was modified to accept four 5-minute values to allow processing of up to 4 single 5-minute granules.
3. The MODIS aerosol control flag was changed to a separate variable.

PGE CER4.1-4.2P1
4. The daily QC code was modified to not to produce an empty daily QC file when there is no single hourly QC file exists in that day.

Reason for Change (non-Science):
PGE CER4.1-4.1P2
1. To improve ASDC staging of data, this new directory format was requested.
2. ASDC requested a method to run over ARM sites without removing all the other MODIS granules.
3. Simplifies code for Aqua processing.

PGE CER4.1-4.2P1
4. The monthly QC reads the header only from the first existing daily QC file. Monthly QC PGE will fail if it reads the QC header from an empty file. This will avoid such failure.

Est. Time to Complete Changes: 5-7 days.
Planned Delivery Date : May 3, 2002
Impact : Clouds

Date: 04/29/2002 Status: SUBMITTED

Originator: SUN-MACK, SUNNY (SAIC)

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ADDITIONAL CHANGES TO SCCR NO. 351:
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Description of Change (Science):
PGE4.1-4.1P2
1. Include clear sky 0.66 and 1.66 micrometer radiance in the aerosol A supplement (aerosupp_2 and aerosupp_4 respectively) for solar zenith angles greater than 90. The percentage area and mean viewing angle of the clear pixels we also calculated for those footprints (aerosupp_1 and aerosupp_3).
2. The maximum water radius was set to <= 32 and the maximum ice diameter was set to <=128, in convolution code.
3. Clear sky overhead albedo over polar region was not updated before. The Clouds retrieval code was modified to update clear sky overhead albedo over polar region now. This updated information is used in the next day's snow surface determination over polar regin and over the coast area when daily snow map and ice map do not have valid value(s).
4. Over polar region, when SINT algorithm is used, if CERES clouds phase determines ice cloud and cloud retrieval particle size < 40 um, Welch algorithm phase determination is applied when Welch algorithm returns water cloud.

5 Minimum emissivity used to be zero for nighttime cloud retrieval. Now it is set to be 0.02 and this pixel is flaged as clear.

Reason for Change (Science):
PGE4.1-4.1P2
1. Since the visible radiances are not used for the mean radiance at night, they need to be stored in other variables. The night visible radiances are used to calibrate the channel to improve aerosol optical depth retrievals.
2. Water radius and ice diameter higher then reasonable were being put on the SSF.
3. Over polar region, when surface has snow/ice but this snow/ice information is unknown from daily snow/ice maps, cloud retrieval uses VISST instead of SINT. With the previous day's clear sky information, the surface information will be known and the correct cloud retrieval SINT will be apllied if snow/ice surface is determined.
4 To determine the best cloud phase over polar region.
5. To improve night time cloud retrieval.

Description of Change (non-Science):
PGE4.1-4.1P2
1. The selection of radiance channels for aerosol optical thickness was changed to use the master list instead of the footprint values.

PGE4.1-4.3P1
2 It was found that in monthly QC PGE, day/night solar zenith angle cutoff was set at 78 degree. This was corrected and set at 82 degree.

Reason for Change (non-Science):
PGE4.1-4.1P2
1. The needed radiances are no longer used on every footprint that has aerosol A values.

PGE4.1-4.3P1
2. To be consistent with other PGEs.

Est. Time to Complete Changes: 1-2 days.
Planned Delivery Date : May 24, 2002.
Impact : Clouds

Date & Time: 2002-05-24 11:17:10

Originator: SUN-MACK, SUNNY (SAIC)

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Description of Change (Science):
PGE4.1-4.1P2
1. Directional model for MODIS over water was reduced by 13%.

Reason for Change (Science):
PGE4.1-4.1P2
1. Offline studies suggested this.

Description of Change (non-Science):
N/A

Reason for Change (non-Science):
N/A

Est. Time to Complete Changes: Completed.
Planned Delivery Date : May 28, 2002
Impact : Clouds

Date & Time: 2002-05-28 11:05:05

Originator: SUN-MACK, SUNNY (SAIC)

CERES Software Configuration Change Request Submittal

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Subsystem: Inversion4.5 SCCR Date: 05/08/2002 SCCR Number: 356

Description of Change (Science):
N/A

Reason for Change (Science):
N/A

Description of Change (non-Science):
PCF generator script for PGE CER4.5-6.3P1 will be modified to correctly create the MOA file name when using the first MOA file for the next day

Reason for Change (non-Science):
Created MOA file name was not adding a zero before day 9 in some file names.

Est. Time to Complete Changes: n/a
Planned Delivery Date : May 05, 2002
Impact : N/A

Date: 05/09/2002 Status: APPROVED

Originator: NOLAN, SANDY K. (SAIC)

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ADDITIONAL CHANGES TO SCCR NO. 356:
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Description of Change (Science):
n/a

Reason for Change (Science):
n/a

Description of Change (non-Science):
Please dissapprove this SCCR. These changes will be include in the delivery associated with SCCR 361

Reason for Change (non-Science):
PGE redelivered

Est. Time to Complete Changes: n/a
Planned Delivery Date : n/a
Impact :

Date & Time: 2002-05-28 11:24:37

Originator: NOLAN, SANDY K. (SAIC)

CERES Software Configuration Change Request Submittal

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Subsystem: Inversion4.5 SCCR Date: 05/21/2002 SCCR Number: 359

Description of Change (Science):
n/a

Reason for Change (Science):
n/a

Description of Change (non-Science):
The PCF generator for PGE CER4.5-6.2P2 will be modified and references to CER_SSFAS-NIT will be removed from the PCFin file.

Reason for Change (non-Science):
CER_SSFAS-NIT was removed from the ASDC database and the epilogue will fail if it remains the PCFin file.

Est. Time to Complete Changes: n/a
Planned Delivery Date : 05/21/2002
Impact : n/a

Date: 05/21/2002 Status: APPROVED

Originator: NOLAN, SANDY K. (SAIC)

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ADDITIONAL CHANGES TO SCCR NO. 359:
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Description of Change (Science):
n/a

Reason for Change (Science):
n/a

Description of Change (non-Science):
Please dissapprove this SCCR. These changes will be include in the delivery associated with SCCR 364

Reason for Change (non-Science):
PGE redelivered

Est. Time to Complete Changes: n/a
Planned Delivery Date : n/a
Impact : n/a

Date & Time: 2002-05-28 11:25:57

Originator: NOLAN, SANDY K. (SAIC)

CERES Software Configuration Change Request Submittal

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Subsystem: Inversion SCCR Date & TIME: 2002-05-23 19:13:02 SCCR No.: 361

Description of Change (Science):
- The CERES LW TOA flux - upward will no longer use the "unknown" ADM type when the filtered SW radiance is < 0.

- Cloudy Footprint Area, Mean visible optical depth for cloud layer will be set to 0.05 whenever the current value is below 0.05. This parameter range check/correction applies to upper and lower cloud layers. When the Mean visible optical depth for cloud layer is set to 0.05, the Mean logarithm of visible optical depth for cloud layer will be set to ln(0.05). The Stddev of visible optical depth for cloud layer and Stddev of logarithm of visible optical depth for cloud layer will not be modified.

- The algorithm for CERES downward/net SW surface fluxes, Model A will be corrected to include the GFDL aerosol correction and process only for clear-sky (99.9+ percent clear area) FOVs. (This change will be made in the CERESlib modules gfdl_aer_clim.f90 and surf_sw_model_a.f90, but is also included in this SSCR for completeness)

Reason for Change (Science):
To correct errors in the TRMM Edition2B data.

Description of Change (non-Science):
n/a

Reason for Change (non-Science):
n/a

Est. Time to Complete Changes: 2 days
Planned Delivery Date : 5/24/2002
Impact : Reprocessing of existing TRMM Edition2B SSF data

Originator: NOLAN, SANDY K. (SAIC)

CERES Software Configuration Change Request Submittal

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*** All changes described in this SCCR were made in CERESlib. ***

Subsystem: Inversion SCCR Date & TIME: 2002-05-24 10:52:19 SCCR No.: 362

Description of Change (Science):
CERESlib module, surf_sw_model_a.f90, was modified:

1. To Add condition to only create SW surface model A fluxes for Clear-sky (99.9% clear or greater) footprints

2. To change the cutoff for tau values from 0.5 to 0.0

Reason for Change (Science):
1. Former version of module produced SW surface model A fluxes for all-sky

2. Code correction provided by Anne Wilber.

Description of Change (non-Science):
CERESlib module,gfdl_aer_clim.f90, was modified to add the SAVE attribute to coefficient array variable definitions

Reason for Change (non-Science):
1. To insure that memory for arrays remains static.

Est. Time to Complete Changes: 1 day
Planned Delivery Date : 5/24/2002
Impact : n/a

Originator: NOLAN, SANDY K. (SAIC)

CERES Software Configuration Change Request Submittal

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Subsystem: Inversion SCCR Date & TIME: 2002-05-28 08:54:55 SCCR No.: 364

Description of Change (Science):
- The CERES (Terra) LW TOA flux - upward will no longer use the "unknown" ADM type when the filtered SW radiance is < 0.
- The algorithm for CERES downward/net SW surface fluxes, Model A will be corrected to include the GFDL aerosol correction and process only clear-sky (99.9+ percent clear area) FOVs.
(This change will be made in the CERESlib modules gfdl_aer_clim.f90 and surf_sw_model_a.f90, but is also included in this SSCR for completeness)

Reason for Change (Science):
algorithm corrections

Description of Change (non-Science):
n/a

Reason for Change (non-Science):
n/a

Est. Time to Complete Changes: 1 day
Planned Delivery Date : May 29, 2002
Impact : n/a

Originator: NOLAN, SANDY K. (SAIC)

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
1.0	Cooper/ Escuadra	• Completed new PGE CER1.3P3. Delivery of the new PGE along with other SS1 updates will be complete by COB June 5. (Cooper, Escuadra) • Performed trending analysis to help verify results of new Edition2 software. (Spence) • Studied bit-flip/sun-glint count discrepancy between the instruments on Terra. Verified that the coefficients being used for sun-glint detection in SS1 are still valid. (Spence) • Revising scripts used for running the website for CRYSTAL-FACE. Working on planning of software and hardware testing that will occur late this week or early next week. Experiment will take place in July. (Szewczyk) • Continued tracking Terra and Aqua data receipt. All ephemeris and attitude data for May 2002 Terra has been received. Aqua data continues to arrive in a timely manner. (Cooper)	

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
2.0	Kizer	• Completed running ES8N for FM1 and FM2 inversion nadir products though SS2 and SS3 to assist instrument team in analysis results. (Kizer) • Generated LW Day/Night averages and supplied graphs and plots of data for science team. (Kizer, Walikainen) • Plans to deliver ERBE-like Subsystems 2 & 3 on May24, 2002 with additional capability to process monthly Spectral Correction Coefficient files was postponed to 1st week in June. (Kizer) • Completed updating ES-8 dump file for read software package. (Kizer) • Completed the ERBE-like SS2 Operator's Manual and Test Plan. Delivery to CERES CM is scheduled with software delivery. (Kizer) • Continued updating ERBE-like DPC pages and Collection Guide. Working with documentation team with standardizations. (Kizer) • Continuing preliminary studies of ES-4 data for a QC checker software similar to the ES-8 QC checker. (Walikainen) • Began study of sunglints in Terra FM1 and FM2 data. (Walikainen) • Continuing to examine the production email generated by the QC checker software. (Walikainen) • Continuing to inspect ERBE-like Terra and TRMM output plots and QC reports on the Web. (Walikainen, Kizer)	
3.0	Kizer	Combined with above.	

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
4.1	Sun-Mack	• Worked on reprocessing TRMM VIRS Edition2 results for the web (RAZ results were missing for some months and VZA calculation for totalpixels was modified). (R.Brown) • Continued to process Edition2 CloudVis results. (R.Brown) • Worked on delivery for SCCR#351 (R.Brown, Miller, Sun-Mack) • Modified MODIS reader to read 250 meter data. (Sun-Mack) • Implemented a new cloud retrieval algorithm using 250 meter MODIS data. Validated before and after for various clear sky refelctance stdv, with Pat Minnis and Louis Nguyen.	
4.2	Sun-Mack	Combined with above.	
4.3	Sun-Mack	Combined with above.	
4.4	Miller	• Produced offline comparison of the two-channel VIRS, single-channel VIRS, and single channel MODIS. The VIRS used a look-up table with spectral response of the VIRS instrument. MODIS used a look-up table with the MODIS spectral response. A significant improvement was noted for the 0.66 micrometer channel (vs 0.63 um). Smaller change was seen in the 1.6 um . (Miller) • Monitored TRMM VIRSonly production. Created daily binary QC files for TRMM January through May 2001. (Miller) • Problems: None	

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
4.5	Nolan	• Completed delta delivery of PGE CER4.5-6.2P2 PCF generator script to CM on May 22, 2002. (Nolan) • Updated Surface SW model A module to use 99.9% clear as clear-sky cutoff and modified the GFDL correction code. Delivered module to CERESlib on 5-24-2002. (Nolan) • Created and tested tar files for PGE CER4.5-6.3P1 and delivered to CM on May 27, 2002 (Nolan) • Created and tested tar files for PGEs CER4.5-6.1P2, CER4.5-6.2P1, and CER4.5-6.2P2, and delivered to CM on May 29, 2002 (Nolan) • Updated LW and WN flux module to no longer use the "unknown" ADM type when the filtered SW radiance is < 0. Also modified code so that when the Cloudy Footprint Area, Mean visible optical depth for cloud layer is below 0.05., it will be set to 0.05 and the mean logarithm of visible optical depth for cloud layer will be set to ln(0.05). (Nolan) • Created 2 SSFB files with footprints over an ARM site for the Surface-only Working Group. (Nolan) • Created 2 additional days of TRMM Edition2B SSF subset files at the SCF for the ADM Working Group. (Nolan) • Continued work on modifications to Inversion Subsystem software for June CM delivery. This delivery will include software to create the Terra Edition1A and Aqua Beta1 SSF products. (Nolan, Hoppe, and Franklin) • Continued work to update SSF read package for Terra SSF products. Selected 5 footprints and created the sample HDF and dump files. (Franklin, Hoppe, Nolan) • Aerosol product handling portion of PGE 4.5-6.2P2 was completely separated from the main program into a new module aerosol_subset_mod.f90. (Hoppe) • Completed SSF summary for Terra Beta3. (Hoppe). • Worked with Lindsay Parker to help modify his code to use the binary SSF instead of the SSF subset files. (Nolan)	

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
4.6	Nolan	Combined with above.	
5.0	Coleman	• Processed FOVs meeting specifications requested by Tom Charlock through version of code that saves flux values at all vertical profile levels for all sky conditions calculated. • Modified a CRS Print utility to print this enhanced output, and provided results to Tom Charlock for a CALIPSO meeting presentation. (Coleman) • Preparing software package to convert an HDF CRS file to binary. (Caldwell) • Successfully tested initialization portion of SARB Monthly QC Summary Post-Processor under development. (Coleman)	
7.2	Coleman	Combined with above.	
12.0	Coleman	• Reviewed published changes and conferred with Fred Rose regarding the upcoming DAS GEOS-4 data set and determined that only minor changes to the Regrid MOA Subsystem will be necessary. Participated in DAS telecon on the matter. (Coleman, Caldwell)	
7.1	Nguyen	• No new updates.	
8.0	Nguyen	• No new updates.	
10.0	Nguyen	• The directional models are being validated using direct integration. (Boghosian) • Continue validating and updating SRBAVG. Added colatitude and longitude for the regions. Corrected wrong units show up in the paramters in SRBAVG when used viewhdf. Modified code to handle the case of missing the overlap time from PMOA. (Nguyen) • Read April Edition2b SSF and write out the surface flux for 44 ground stations in ASCII format for Anne Wilber to validate. (Nguyen)	
6.0	Raju	• No new updates (Raju)	

Table 3: June 5, 2002 - Subsystem Status

SS No.	SS Lead	Status	Problems
9.0	Raju	• Provided requested SFC product information and binary read software to Ms. Anita Rapp. (Raju) • Met with Ms. Flug and Ms. Yue to discuss SFC product information for the CERES Archival Data Web Site purposes. (Raju) • Worked on the SFC Sample Read Software package and getting ready for the CM delivery. (Raju) • Preparing for the Subsystem delivery on June 7. (Raju)	
11.0	Stassi	• Corrected an error in the main processor PGE METEOSAT count-to-radiance conversion table code. Also removed the VIRS-to-GEO IR wavelength conversion in the intercalibration PGE code since this conversion is already accounted for in the main processor conversion tables. Reran the month of Feb 1998 for all four satellites and recreated the GGEO file. The cloud plot PGE was also run. Preliminary results seem to indicate that the METEOSAT problems have been corrected. There were not large changes for the other satellites. (Stassi) • Set up a GGEO directory structure under the /CERES/clouds directory on thunder with an abbreviated test suites for testing the impact of changes in the Clouds subsystem on GGEO. (Stassi, Sun-Mack)	
CERESlib Stassi/Ayers		• Updated SCFs with updated files: gfdl_aer_clim.f90 and surf_sw_model_a.f90. Redelivered CERESlib. (Stassi, Nolan)	